

# Outspoken Scientist

**I**T IS NOT a new thing for the distinguished theoretical chemist, Linus Pauling, to be embroiled with a congressional committee or government agency. Since the early forties when he refused to fire his Japanese gardener in the days immediately after Pearl Harbor, he has been periodically in the news as the result of speaking out on the unpopular side of important issues. Because he was vice-president of the World Federation of Scientific Workers which has Communists among its members and had in the late forties a Communist president, Professor Joliot-Curie, Pauling attracted the attention of local and congressional groups investigating communism. He was listed by Louis Budenz, a former Communist on the staff of Fordham University, as a member of a group of alleged Communists. This was promptly and flatly denied by Pauling: "The statement is a lie." He was attacked by McCarthy in 1950 as "having a well-nigh incredible record of membership in Communist-front organizations." As the result of these allegations, he was denied a passport three times in 1952 for the purpose of attending scientific meetings and became a cause célèbre. On the fourth try he received a "limited" passport for England and France, but was not allowed to go to India. At the same time, while the gods laughed, his theory of resonance was being denounced at a Soviet chemical conference.

Pauling's scientific career has been brilliant. Born in Portland, Oregon, on February 28, 1901, he received his B.S. from Oregon State College, his Ph.D. in chemistry from California Institute of Technology in 1925. He worked in Munich, Copenhagen, and Zurich in the golden years when the new physics was burgeoning. Perhaps his great achievements in science stem from just this—that as a young modern theoretical chemist he took the trouble to learn physics and quantum mechanics. This opened up avenues of research which paid off splendidly. In the thirties he worked on metal bonds and the nature of metals and then moved on to attack the mystery of proteins. He became known as "a chemist's chemist" when he described the forces which hold atoms together to form molecules as "resonance." Patiently he took proteins apart and showed that their enormous molecules are made of twisted atom chains. His book, *The Nature of the Chemical Bond*, is one of the classics of modern science. In recognition of these discoveries and their application to the elucidation of the structure of complex substances, he received the Nobel Prize for chemistry in 1954.

Pauling's entire working affiliation has been with California Institute of Technology where he became chair-



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man of the division of chemistry and chemical engineering and director of the Gates and Crelin Chemical Laboratories. But he has held many lectureships and visiting professorships in this country and abroad. His list of honorary degrees is long (and includes Chicago, Princeton, Yale, Cambridge, London, Oxford) as is the number of prizes and medals conferred upon him. He is a member of many foreign societies including the Soviet Academy of Sciences. This honor which he shares with Detlev Bronk, president of the U.S. Academy of Sciences, Pauling says was given him because of his outstanding position in the scientific world not because of his test ban petition as the *New York Times* suggested.

There has never been any false modesty in Pauling's make-up. From a young man he was aware of his powers and knew where he wanted to go. His ambitions were fully shared by his wife, Ava Helen, whom he married in 1923. She has literally been by his side every step of the way. It has been a remarkable relationship, a joint enterprise in which she accompanied him to every meeting, conference, speaking engagement, and foreign country, four children notwithstanding.

An achievement of Pauling's not generally known is his conquest of a serious disease, nephritis. With characteristic independence of mind, he applied his knowledge and intelligence to his condition and worked out an approach which was said to be unorthodox but which proved successful.

His recent harassment by the Senate subcommittee on internal security (headed by James O. Eastland, Democrat, Missouri, but conducted by Thomas J. Dodd, Democrat, Connecticut) could have led to a "contempt of Congress" citation with a subsequent jail sentence. It began quietly enough last July with Pauling already in

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Washington. He received a call from the subcommittee to come to Capitol Hill and answer questions about the nuclear test ban petition he circulated in 1957. He explained his position at length in his easy, reasonable, often eloquent manner. The petition, signed by 11,021 scientists from 49 countries and presented to the U.N. on January 15, 1958, was initiated entirely by himself because he thought the continuation of nuclear weapons tests a bad idea. He agreed to give the committee the names of people he had written to, and the petition with its names was, of course, available. When asked for the names of the people who had helped collect the signatures, he refused. He said he knew from personal experience that giving names to a congressional committee could lead to reprisals and these people had done nothing but exercise their constitutional right to petition government. Up to this point the tone of the hearings had been fair, even genteel (said *Science*) but then came a demand that Pauling return on August 9 with the names. A delay was granted and on October 11 when Pauling was again before the subcommittee, their demand was not pushed.

The last years have seen Pauling devoting himself more and more to the fight against nuclear weapons and the continuation of the arms race. He resigned his administrative posts at Cal Tech and has made a second career of "speaking out." His book *No More War* which appeared in 1958 is an eloquent plea to stop nuclear testing because of the genetic hazards. He is in demand the world over; he has gone to a Pugwash Conference and in 1959 both he and his wife spoke at the annual conference of the Japanese Council Against A- and H-Bombs. This group certainly has the support of Communists as well as non-Communists and it is typical of Pauling not to be deterred from his goals by associates not exactly

persona grata to our State Department. When he was first attacked in California he said he would continue to speak his mind and to associate with anyone he pleased.

As a speaker, Pauling is humorous, personal, and very, very self-confident. He seeks to arouse the idealism of people, especially young people, to work for ends all sane men agree with—a test ban, disarmament, peace, freedom, survival. He can make the evil he opposes seem fantastic and ludicrous so that young audiences laugh as he describes the terrible results of nuclear war. Besides being for good as against evil, for love as against hate, he is in favor of the Rapacki Plan for a nuclear free zone in central Europe and believes that we should have paid attention to the Chinese proposal for a similiar zone in the Pacific. To the more mature knowledgeable person, his oversimplifications and unqualified absolutes tend to seem irresponsible. On the question of justification for the Hiroshima and Nagasaki bombings—he sees none whatsoever—he uses hindsight to distort the realities of a nation at war.

Perhaps it is the gap between the crusader attacking large evils from the outside and the man in responsible position having to make difficult decisions that explains a certain caution with which many of Pauling's scientific colleagues regard him. The names of very few outstanding scientists "having knowledge of the dangers involved" were to be found among the 11,000 of the test ban petition. Many think that backing generalized utopian solutions makes a scientist lose his effectiveness; others feel mass petitions to be useless. Although Pauling cannot be regarded as the spokesman for the scientific community, he is a spokesman whose independence, courage, and fighting qualities are recognized by his fellow scientists.

—HELEN C. ALLISON